ABSTRACT

A process, composition and method for increasing and enhancing mammalian eustachian tube lumen patency and pressure equalization performance is disclosed wherein an aerosolized mixture of lipid crystals comprised of a mixture of one or more lipids surfactants and one or more spreading agents selected from the group consisting of sterols, lipids, fatty acids, cholesteryl esters, phospholipids, carbohydrates, and proteins, in powder form, and one or more propellants, in which the lipid surfactants and spreading agents are not soluble, are administered through a mammalian airway orifice. Upon administration, the propellant(s) are evaporated from the mixture and the lipid crystals are deposited within a subject mammalian eustachian tube whereupon said lipid crystals come into contact with lumen surfaces of the tube forming an amorphous spread film thereupon substantially decreasing the opening pressure of the lumen. In a second preferred embodiment, a therapeutically active agent effective in the treatment of otitis media is added to the mixture of lipid crystals and upon administration of said aerosol mixture, the amorphous spread film formed thereby carries said therapeutically active agent through the eustachian tube to the tissues of the middle ear. In an alternate preferred embodiment, the afore-mentioned reduction of surface tension and delivery of therapeutically active agents is provided by a mixture of lipid crystals comprised of surfactant(s), therapeutically active agents and a propellant in which such other components are not soluble.